

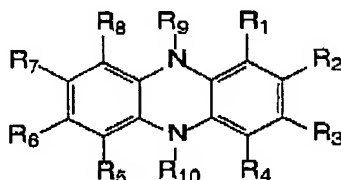
Attorney Docket 85143RLO
Customer No. 01333

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. Canceled.
2. (Currently amended) A multilayer electroluminescent device comprising a cathode, an anode, a light emitting layer (LEL) and a layer disposed between the cathode and anode containing a dihydrophenazine compound represented by:



wherein:

R₁ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, or connected to R₂ to form 5 or 6 member rings which may be substituted or unsubstituted;

R₄ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, or connected to R₃ to form 5 or 6 member rings which may be substituted or unsubstituted;

R₅ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl, substituted alkenyl, alkoxy, aryloxy, amino, or connected to R₆ to form 5 or 6 member rings which may be substituted or unsubstituted;

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R_8 is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, or connected to R_7 to form 5 or 6 member rings which may be substituted or unsubstituted;

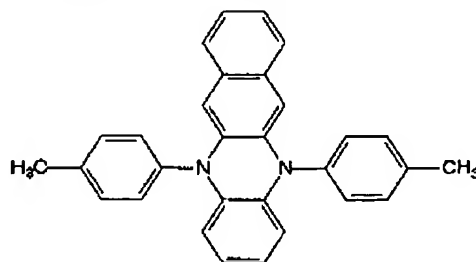
R_2 and R_3 are individually hydrogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, halogen, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, thioaryl, thioalkyl, or connected to form 5 or 6 member rings which may be substituted or unsubstituted;

R_6 and R_7 are individually hydrogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, halogen, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, thioaryl, thioalkyl, or connected to form 5 or 6 member rings which may be substituted or unsubstituted; and

R_9 and R_{10} are individually ~~hydrogen~~, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl;

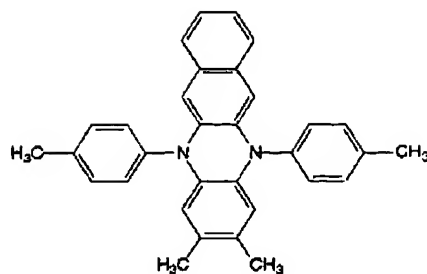
wherein one of R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , and R_8 , is ~~something~~ other than hydrogen.

3. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:

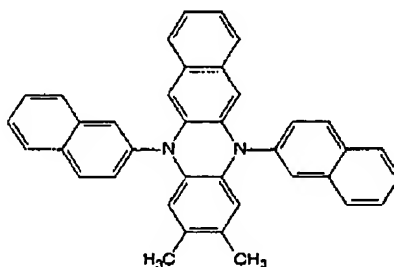


4. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:

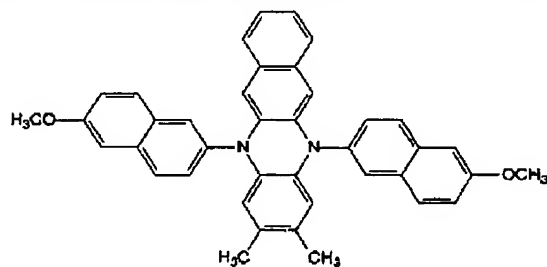
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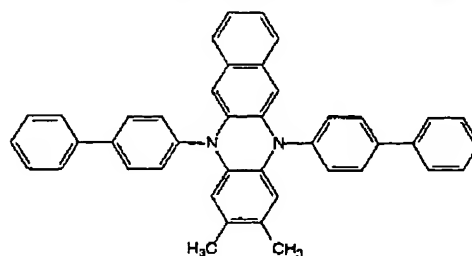
5. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:



6. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:

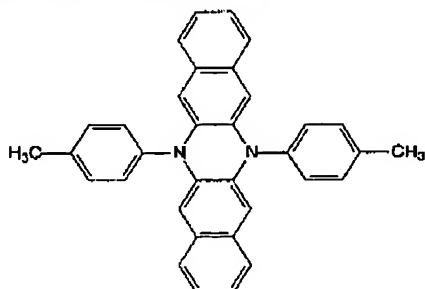


7. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:

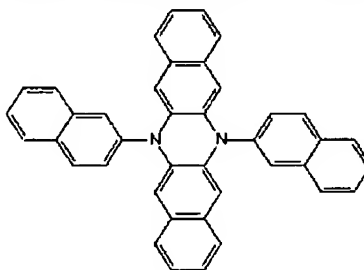


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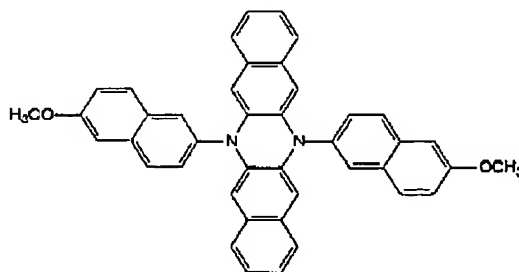
8. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:



9. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:



10. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is of the formula:



- 11. Canceled.
- 12. Canceled.
- 13. Canceled.
- 14. Canceled.
- 15. Canceled.
- 16. Canceled.
- 17. Canceled.

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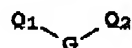
18. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is contained in a layer that is adjacent to the anode.

19. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the anode.

20. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the light emitting layer.

21. (Original) The multilayer electroluminescent device of claim 2 wherein the dihydrophenazine derivative functions to improve hole-transporting and there is present in a layer between the anode and the light emitting layer a second compound that functions to improve hole transporting.

22. (Original) The multilayer electroluminescent device of claim 21 wherein the second compound is represented by:



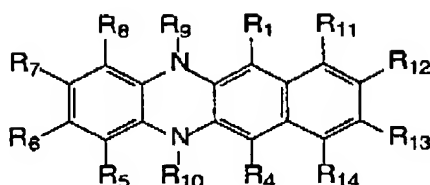
wherein Q_1 and Q_2 are independently selected aromatic tertiary amine moieties and G is a linking group or a bond.

23. (Original) The multilayer electroluminescent device of claim 21 wherein the second compound is contained in the layer adjacent to the light emitting layer.

24. (Original) The multilayer electroluminescent device of claim 21 wherein the second compound is N,N' -di(1-naphthyl)- N,N' -diphenyl-4,4'-diaminobiphenyl or N,N' -di-1-naphthalenyl- N,N' -di-2-naphthalenyl-[1,1'-Biphenyl]-4,4'-diamine.

25. (Previously Presented) A multilayer electroluminescent device comprising a cathode, an anode, a light emitting layer (LEL) and a layer disposed between the cathode and anode containing a dihydrophenazine compound represented by:

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wherein:

R_1 is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino or connected to R_{11} to form 5 or 6 member ring systems;

R_4 is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino or connected to R_{14} to form 5 or 6 member ring systems;

R_5 is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl, substituted alkenyl, alkoxy, aryloxy, amino, or connected to R_6 to form 5 or 6 member ring systems;

R_6 and R_7 are individually hydrogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, halogen, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, thioaryl, thioalkyl, or connected to form 5 or 6 member ring systems;

R_8 is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, or connected to R_7 to form 5 or 6 member ring systems;

R_9 and R_{10} are individually hydrogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl;

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R₁₁ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl, substituted alkenyl, alkoxy, aryloxy, amino, connected to R₁ to form 5 or 6 member ring systems or connected to R₁₂ to form 5 or 6 member ring systems;

R₁₂ and R₁₃ are individually hydrogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, halogen, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, thioaryl, thioalkyl, or connected to form 5 or 6 member ring systems; and

R₁₄ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, amino, connected to R₄ to form 5 or 6 member ring systems or connected to R₁₃ to form 5 or 6 member ring systems.

26. (Previously Presented) The multilayer electroluminescent device of claim 25 wherein the dihydrophenazine compound is contained in a layer that is adjacent to the anode.

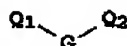
27. (Previously Presented) The multilayer electroluminescent device of claim 25 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the anode.

28. (Previously Presented) The multilayer electroluminescent device of claim 25 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the light emitting layer.

29. (Previously Presented) The multilayer electroluminescent device of claim 25 wherein the dihydrophenazine derivative functions to improve hole-transporting and there is present in a layer between the anode and the light emitting layer a second compound that functions to improve hole transporting.

30. (Previously Presented) The multilayer electroluminescent device of claim 29 wherein the second compound is represented by:

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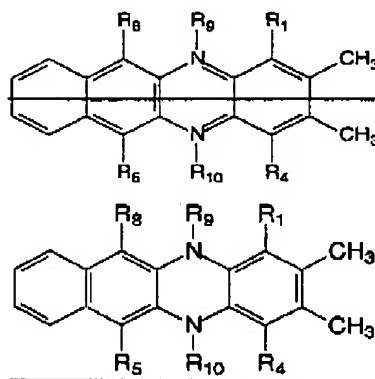


wherein Q_1 and Q_2 are independently selected aromatic tertiary amine moieties and G is a linking group or a bond.

31. (Previously Presented) The multilayer electroluminescent device of claim 29 wherein the second compound is contained in the layer adjacent to the light emitting layer.

32. (Previously Presented) The multilayer electroluminescent device of claim 29 wherein the second compound is N,N' -di(1-naphthyl)- N,N' -diphenyl-4,4'-diaminobiphenyl or N,N' -di-1-naphthalenyl- N,N' -di-2-naphthalenyl-[1,1'-Biphenyl]-4,4'-diamine.

33. (Currently amended) A multilayer electroluminescent device comprising a cathode, an anode, a light emitting layer (LEL) and a layer disposed between the cathode and anode containing a dihydrophenazine compound represented by:



wherein:

R_1 is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, or amino;

R_4 is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, or amino;

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R₅ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl, substituted alkenyl, alkoxy, aryloxy, or amino;

R₈ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, or amino; and

R₉ and R₁₀ are individually hydrogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl.

34. (Previously Presented) The multilayer electroluminescent device of claim 33 wherein the dihydrophenazine compound is contained in a layer that is adjacent to the anode.

35. (Previously Presented) The multilayer electroluminescent device of claim 33 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the anode.

36. (Previously Presented) The multilayer electroluminescent device of claim 33 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the light emitting layer.

37. (Previously Presented) The multilayer electroluminescent device of claim 33 wherein the dihydrophenazine derivative functions to improve hole-transporting and there is present in a layer between the anode and the light emitting layer a second compound that functions to improve hole transporting.

38. (Previously Presented) The multilayer electroluminescent device of claim 37 wherein the second compound is represented by:



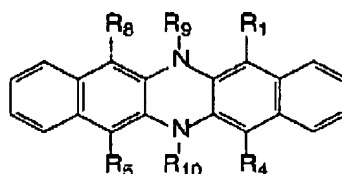
wherein Q₁ and Q₂ are independently selected aromatic tertiary amine moieties and G is a linking group or a bond.

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39. (Previously Presented) The multilayer electroluminescent device of claim 37 wherein the second compound is contained in the layer adjacent to the light emitting layer.

40. (Previously Presented) The multilayer electroluminescent device of claim 37 wherein the second compound is N,N'-di(1-naphthyl)-N,N'-diphenyl-4,4'-diaminobiphenyl or N,N'-di-1-naphthalenyl-N,N'-di-2-naphthalenyl-[1,1'-Biphenyl]-4,4'-diamine.

41. (Previously Presented) A multilayer electroluminescent device comprising a cathode, an anode, a light emitting layer (LEL) and a layer disposed between the cathode and anode containing a dihydrophenazine compound represented by:



wherein:

R₁ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, or amino;

R₄ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, or amino;

R₅ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl, substituted alkenyl, alkoxy, aryloxy, or amino;

R₈ is hydrogen, halogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl, alkoxy, aryloxy, or amino; and

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R₉ and R₁₀ are individually hydrogen, alkyl of from 1 to 24 carbon atoms, which are branched, unbranched, or cyclic, aryl or substituted aryl of from 5 to 24 carbon atoms, heterocyclic or substituted heterocyclic, alkenyl or substituted alkenyl.

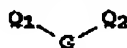
42. (Previously Presented) The multilayer electroluminescent device of claim 41 wherein the dihydrophenazine compound is contained in a layer that is adjacent to the anode.

43. (Previously Presented) The multilayer electroluminescent device of claim 41 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the anode.

44. (Previously Presented) The multilayer electroluminescent device of claim 41 wherein the dihydrophenazine compound is contained in a layer that is not adjacent to the light emitting layer.

45. (Previously Presented) The multilayer electroluminescent device of claim 41 wherein the dihydrophenazine derivative functions to improve hole-transporting and there is present in a layer between the anode and the light emitting layer a second compound that functions to improve hole transporting.

46. (Previously Presented) The multilayer electroluminescent device of claim 45 wherein the second compound is represented by:



wherein Q₁ and Q₂ are independently selected aromatic tertiary amine moieties and G is a linking group or a bond.

47. (Previously Presented) The multilayer electroluminescent device of claim 45 wherein the second compound is contained in the layer adjacent to the light emitting layer.

48. (Previously Presented) The multilayer electroluminescent device of claim 45 wherein the second compound is N,N'-di(1-naphthyl)-N,N'-diphenyl-4,4'-diaminobiphenyl or N,N'-di-1-naphthalenyl-N,N'-di-2-naphthalenyl-[1,1'-Biphenyl]-4,4'-diamine.